

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
13 January 2005 (13.01.2005)

PCT

(10) International Publication Number

WO 2005/002618 A1

(51) International Patent Classification: A61K 39/118,
39/09, 39/02, 39/295, G01N 33/569, A61P 31/04, 31/12,
C07K 16/12

(21) International Application Number:
PCT/GB2004/002865

(22) International Filing Date: 1 July 2004 (01.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0315323.6 1 July 2003 (01.07.2003) GB

(71) Applicant (for all designated States except US): THE
ROYAL VETERINARY COLLEGE [GB/GB]; Univer-
sity of London, Royal College Street, London NW1 0TU
(GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): BROWNLIE,
John [GB/GB]; The Royal Veterinary College, Hawk-
shead Lane, North Mymms, Hatfield, Herts AL9 7TA

(GB): CHALKER, Victoria, Jane [GB/GB]; The Royal
Veterinary College, Hawkshead Lane, North Mymms, Hat-
field, Herts AL9 7TA (GB); ERLES, Kerstin [DE/GB];
The Royal Veterinary College, Hawkshead Lane, North
Mymms, Hatfield, Herts AL9 7TA (GB).

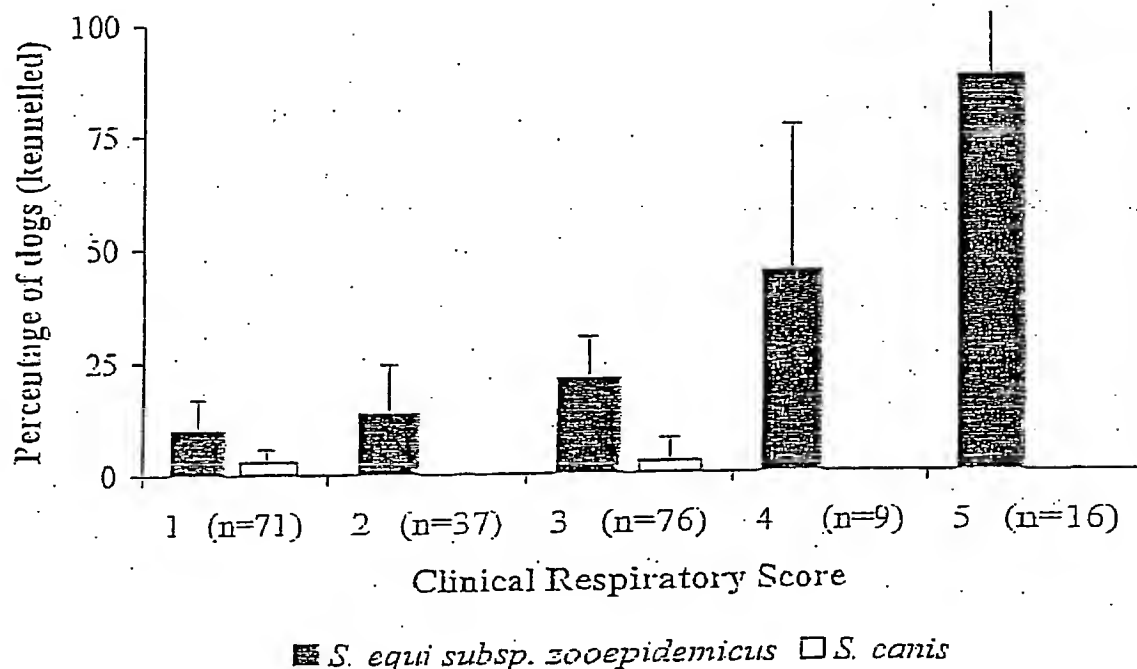
(74) Agents: MILES, John et al.; Eric Potter Clarkson, Park
View House, 58 The Ropewalk, Nottingham NG1 5DD
(GB).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TI, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

[Continued on next page]

(54) Title: VACCINE COMPOSITION FOR VACCINATING DOGS AGAINST CANINE INFECTIOUS RESPIRATORY DIS-
EASE (CIRD)



(57) Abstract: A vaccine composition for vaccinating dogs comprising any one or more of (a) an agent capable of raising an immune response against *Streptococcus equi sub species zooepidemicus* in a dog, (b) an agent capable of raising an immune response against *Mycoplasma cynos* in a dog, and (c) an agent capable of raising an immune response against a *Chlamydia* in a dog.

WO 2005/002618 A1



ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

— before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL SEARCHING AUTHORITY

To:
ERIC POTTER CLARISON
Attn. Miles, John
Park View House
58 The Ropewalk
Nottingham NG1 5DD
UNITED KINGDOM

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT AND
THE WRITTEN OPINION OF THE INTERNATIONAL
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference RVCV/P30948PC	Date of mailing (day/month/year) 10/12/2004
International application No. PCT/GB2004/002865	FOR FURTHER ACTION See paragraphs 1 and 4 below
Applicant THE ROYAL VETERINARY COLLEGE	International filing date (day/month/year) 01/07/2004

- ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.
Filing of amendments and statement under Article 19:
The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):
When? The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.
Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes
1211 Geneva 20, Switzerland, Facsimile No.: (41-22) 740.14.35
For more detailed instructions, see the notes on the accompanying sheet.
- ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.
- ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:
 - ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.
 - ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.
- Reminders**
Shortly after the expiration of 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.
The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.
Within 19 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later); otherwise, the applicant must, within 20 months from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.
In respect of other designated Offices, the time limit of 30 months (or later) will apply even if no demand is filed within 19 months.
See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the International Searching Authority
European Patent Office, P.B. 5818 Patentlaan 2
NL-2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Sabine Oblinger

(See notes on accompanying sheet)

NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below:

How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference RVCV/P30948PC	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, Item 5 below.	
International application No. PCT/GB2004/002865	International filing date (day/month/year) 01/07/2004	(Earliest) Priority Date (day/month/year) 01/07/2003
Applicant THE ROYAL VETERINARY COLLEGE		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 8 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).



- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2.



Certain claims were found unsearchable (See Box II).

3.



Unity of invention is lacking (see Box III).

4. With regard to the title,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

VACCINE COMPOSITION FOR VACCINATING DOGS AGAINST CANINE INFECTIOUS RESPIRATORY DISEASE (CIRD).

5. With regard to the abstract,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regards to the drawings,

- a. the figure of the drawings to be published with the abstract is Figure No. 1



as suggested by the applicant.



as selected by this Authority, because the applicant failed to suggest a figure.



as selected by this Authority, because this figure better characterizes the invention.



- b. none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/GB2004/002865

Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:
 - a. type of material
 - ☒ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material
 - ☒ in written format
 - ☒ in computer readable form
 - c. time of filing/furnishing
 - ☐ contained in the international application as filed
 - ☐ filed together with the international application in computer readable form
 - ☒ furnished subsequently to this Authority for the purpose of search
2. ☒ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB2004/002865

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K39/118 A61K39/09 A61K39/02 A61K39/295 G01N33/569
A61P31/04 A61P31/12 C07K16/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

BIOSIS, EPO-Internal, EMBASE, MEDLINE, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
------------	--	-----------------------

X	US 5 583 014 A (BROWN KAREN K ET AL) 10 December 1996 (1996-12-10) column 1, line 50 - line 51 column 5, line 15 - line 24 example 1 claim 1	1, 2, 8, 23, 24, 27
---	---	------------------------

X		18, 25, 52, 54
---	--	-------------------

X	EP 0 415 794 A (COOPERS ANIMAL HEALTH) 6 March 1991 (1991-03-06) page 2, line 1 - page 3, line 19 example 10 claims 1, 2	1, 3, 6, 8, 23, 24, 27
---	--	---------------------------

X		18, 25
---	--	--------

-/-

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

16 November 2004

Date of mailing of the international search report

10/12/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5618 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Ulbrecht, M.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB2004/002865-

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 023 903 A (AKZO NOBEL NV) 2 August 2000 (2000-08-02) column 4, line 14 - line 16 example 2 claims 1,3-5	1,2,23, 24,27
X		18,25, 52,54
X	WIDDERS P R ET AL: "Immunisation of mares to control endometritis caused by Streptococcus zooepidemicus" RESEARCH IN VETERINARY SCIENCE, vol. 58, no. 1, 1995, pages 75-81, XP002301526 ISSN: 0034-5288 abstract page 75, right-hand column, paragraph 2 -page 77, left-hand column, paragraph 2 figure 1	1,2,8, 23,24, 27,52,54
X		18,25
X	DATABASE BIOSIS 'Online! BIOSCIENCES INFORMATION SERVICE, PHILADELPHIA, PA, US; March 2001 (2001-03) OBUKHOV I L ET AL: "Development of vaccine against chlamydiosis in cats, dogs and fur-bearing animals" Database accession no. PREV200100271011 XP002301528 abstract	1,18, 23-25,27
X	& SEL'SKOKHOZYAISTVENNAYA BIOLOGIYA, no. 2, March 2001 (2001-03), pages 68-79, ISSN: 0131-6397	8
X	US 2003/021801 A1 (KUBO AYA ET AL) 30 January 2003 (2003-01-30) column 10, paragraph 3 -column 19, paragraph 4 claims 1-22	1,5,7, 23,27, 29,31, 52,54
X		8,18,24, 30
X	"Nobivac Forcat" VETERINARIA NEWS, 'Online! 2002, pages 1-6, XP002304346 Retrieved from the Internet: <URL:http://www.veterinaria.ch/news/welcom e.html> 'retrieved on 2004-11-06! page 1	1,5,6, 23,24,27
X		8,18,25

INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB2004/002865

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE PHIN 'Online! 10 May 2002 (2002-05-10) "Nobivac Forcat in Switzerland" retrieved from STN Database accession no. 2002:9264 XP002304348 abstract	1, 5, 6, 23, 24, 27
X	---	8, 18, 25
X	HECHARD CELINE ET AL: "Protection evaluation against Chlamydomonas abortus challenge by DNA vaccination with a dnaK-encoding plasmid in pregnant and non-pregnant mice" VETERINARY RESEARCH (PARIS), vol. 33, no. 3, May 2002 (2002-05), pages 313-326, XP002304347 ISSN: 0928-4249 abstract page 316, column 1, paragraph 3 -page 317, column 1, paragraph 2	1, 4, 23, 24, 27
X	---	8, 18
X	WO 87/00531 A (TECHNOLOGY LICENCE CO LTD) 29 January 1987 (1987-01-29) page 15, line 13 -page 16, line 5 example 1 claims 9, 24	27, 29, 31
X	---	52, 54
X	WO 86/02355 A (TECHNOLOGY LICENCE CO LTD) 24 April 1986 (1986-04-24) page 8, last paragraph examples 1-3 claims 1-8	29, 31
X	---	30, 52, 54
X	DATABASE BIOSIS 'Online! BIOSCIENCES INFORMATION SERVICE, PHILADELPHIA, PA, US; 1994 WOLOSZYNSKI STANISLAW ET AL: "Infectious tracheobronchitis in dogs" Database accession no. PREV199497512573 XP002304443 abstract -& MEDYCYN WETERYNARYJNA, vol. 50, no. 9, 1994, pages 428-431, XP001183735 ISSN: 0025-8628 page 428, left-hand column, paragraph 1 page 429, left-hand column, paragraph 1 ---	45-51
X	---	45-51
	--- -/--	

INTERNATIONAL SEARCH REPORT

 International Application No
 PCT/GB2004/002865

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	CHALKER VICTORIA J ET AL: "The association of Streptococcus equi subsp. zooepidemicus with canine infectious respiratory disease." VETERINARY MICROBIOLOGY, vol. 95, no. 1-2, 29 August 2003 (2003-08-29), pages 149-156, XP002301527 ISSN: 0378-1135 the whole document	1,2,8, 16-18, 20,21, 23-25, 27, 29-33, 35,36, 45-48, 52,54
P,Y		9-15,19, 22,26, 28,34,37
P,Y	WO 2004/011651 A (CHALKER VICTORIA JANE ; BROWNLIE JOHN (GB); ERLES KERSTIN (GB); ROYAL) 5 February 2004 (2004-02-05) page 4; claims 47-63,73-87	9-15,19, 22,26, 28,34,37
A	ERLES K ET AL: "Detection of a group 2 coronavirus in dogs with canine infectious respiratory disease" VIROLOGY, RAVEN PRESS, NEW YORK, NY, US, vol. 310, no. 2, 5 June 2003 (2003-06-05), pages 216-223, XP002257085 ISSN: 0042-6822 the whole document	1-54
A	DURGUT RAMAZAN ET AL: "Kennel cough syndrome of dogs observed in Ankara province." INDIAN VETERINARY JOURNAL, vol. 80, no. 8, August 2003 (2003-08), pages 743-745, XP009038499 ISSN: 0019-6479 the whole document	1-54

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.1

Although the claims 16-19, 29, 32-34, 43-48 and 51 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Continuation of Box II.1

Claims Nos.: 16-19, 29, 32-34, 43-48, 51

Claims 16-19, 32-34:

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy

Claims 29, 43-48, 51:

Rule 39.1(iv) PCT

- Method for treatment of the human or animal body by surgery

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2004/002865

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 16-19, 29, 32-34, 43-48, 51
because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB2004/002865

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5583014	A	10-12-1996	CA 2044721 A1	04-01-1992
EP 0415794	A	06-03-1991	AU 637405 B2	27-05-1993
			AU 6335590 A	08-04-1991
			CA 2064911 A1	02-03-1991
			DD 297331 A5	09-01-1992
			EP 0415794 A1	06-03-1991
			EP 0766967 A1	09-04-1997
			WO 9103256 A1	21-03-1991
			HR 930517 A1	31-08-1997
			HU 61205 A2	28-12-1992
			IE 903161 A1	13-03-1991
			JP 5500056 T	14-01-1993
			LV 10394 A ,B	20-02-1995
			NZ 235119 A	23-12-1991
			PL 286711 A1	15-07-1991
			PL 168316 B1	29-02-1996
			PT 95164 A ,B	22-05-1991
			US 5178860 A	12-01-1993
			ZA 9006977 A	27-05-1992
EP 1023903	A	02-08-2000	EP 1023903 A1	02-08-2000
			AT 257713 T	15-01-2004
			AU 761515 B2	05-06-2003
			AU 1355700 A	27-07-2000
			CA 2296965 A1	26-07-2000
			DE 60007668 D1	19-02-2004
			DK 1023903 T3	10-05-2004
			ES 2214217 T3	16-09-2004
			JP 2000309542 A	07-11-2000
			PT 1023903 T	30-04-2004
			US 6682745 B1	27-01-2004
			US 2004120970 A1	24-06-2004
US 2003021801	A1	30-01-2003	US 2001048927 A1	06-12-2001
			AU 3476701 A	14-08-2001
			WO 0156605 A1	09-08-2001
WO 8700531	A	29-01-1987	EP 0229146 A1	22-07-1987
			WO 8700531 A1	29-01-1987
			JP 63500593 T	03-03-1988
WO 8602355	A	24-04-1986	EP 0198001 A1	22-10-1986
			WO 8602355 A1	24-04-1986
WO 2004011651	A	05-02-2004	WO 2004011651 A1	05-02-2004

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/GB2004/002865

International filing date (day/month/year)
01.07.2004

Priority date (day/month/year)
01.07.2003

International Patent Classification (IPC) or both national classification and IPC
A61K39/118, A61K39/09, A61K39/02, A61K39/295, G01N33/569, A61P31/04, A61P31/12, C07K16/12

Applicant
THE ROYAL VETERINARY COLLEGE

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

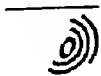
If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399-0 Tx: 523655 epmu d
Fax: +49 89 2399-4465

Authorized Officer

Ulbrecht, M
Telephone No. +49 89 2399-7710



WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITYInternational application No.
PCT/GB2004/002865

IP20 Rec PCT/PTD 30 DEC 2006

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☒ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☒ in written format
☒ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☒ furnished subsequently to this Authority for the purposes of search.
3. ☒ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No...
PCT/GB2004/002865

Box No. II Priority

1. ☐ The following document has not been furnished:

☐ copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. ☒ It has not been possible to consider the validity of the priority claim because a copy of the priority document was not available to the ISA at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

4. Additional observations, if necessary:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/GB2004/002865

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial
applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application,
☒ claims Nos. 16-19,29,32-34,43-48,51 (with respect to IA)

because:

- ☒ the said international application, or the said claims Nos. 16-19,29,32-34,43-48,51 (with respect to IA) relate to the following subject matter which does not require an international preliminary examination (specify):

see separate sheet

- ☐ the description, claims or drawings (indicate particular elements below) or said claims Nos. are so unclear that no meaningful opinion could be formed (specify):

- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

- ☐ no international search report has been established for the whole application or for said claims Nos.

- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form

- ☐ has not been furnished
☐ does not comply with the standard

the computer readable form

- ☐ has not been furnished
☐ does not comply with the standard

- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.

- ☐ See separate sheet for further details

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/GB2004/002865

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	9-22,25,26,30,32-37,45-48,51
	No: Claims	1,2,8,23,24,27,29,31,52,54
Inventive step (IS)	Yes: Claims	43,44,53
	No: Claims	1-42,45-52,54
Industrial applicability (IA)	Yes: Claims	1-15,20-28,30,31,35-42,49,50,52-54
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VI Certain documents cited

1. Certain published documents (Rules 43bis.1 and 70.10)

and /or

2. Non-written disclosures (Rules 43bis.1 and 70.9)

see form 210

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)

International application No.

PCT/GB2004/002865

Reference is made to the following documents:

- D1: US-A-5 583 014
D2: EP-A-1 023 903
D3: WIDDERS P R ET AL: "Immunisation of mares to control endometritis caused by Streptococcus zooepidemicus" RESEARCH IN VETERINARY SCIENCE, vol. 58, no. 1, 1995, pages 75-81
D4: EP-A-0 415 794
D5: HECHARD CELINE ET AL: "Protection evaluation against Chlamydophila abortus challenge by DNA vaccination with a dnaK-encoding plasmid in pregnant and non-pregnant mice" VETERINARY RESEARCH (PARIS), vol. 33, no. 3, May 2002 (2002-05), pages 313-326
D6: "Nobivac Forcat" VETERINARIA NEWS, [Online] 2002, pages 1-6,
D7: DATABASE PHIN STN; 10 May 2002 (2002-05-10), "Nobivac Forcat in Switzerland"
D8: US 2003/021801)
D9: DATABASE BIOSIS [Online] BIOSCIENCES INFORMATION SERVICE, PHILADELPHIA, PA, US; March 2001 (2001-03), OBUKHOV I L ET AL: "Development of vaccine against chlamydiosis in cats, dogs and fur-bearing animals" Database accession no. PREV200100271011
D10: WO 86/02355
D11: WO 87/00531
D12: WOLOSZYN S ET AL: "Infectious tracheobronchitis in dogs." MEDYCYNA WETERYNARYJNA, vol. 50, no. 9, 1994, pages 428-431
D13: CHALKER VICTORIA J ET AL: "The association of Streptococcus equi subsp. zooepidemicus with canine infectious respiratory disease." VETERINARY MICROBIOLOGY, vol. 95, no. 1-2, 29 August 2003 (2003-08-29), pages 149-156
D14: WO 2004/011651

Re item III:

Claims 16-19 and 32-34 relate to methods of treatment of the human or animal body by therapy. The wording of claims 29, 43-48 and 51 is such that it embraces a

method of treatment of the human or animal body by therapy. Thus claims 16-19, 29, 32-34, 43-48 and 51 relate to subject-matter considered by this Authority to be covered by the provisions of R. 67.1(iv) PCT. Consequently, no opinion will be formulated with respect to the industrial applicability of the subject-matter of these claims (Art. 34(4)(a)(i) PCT).

Re item V:

- 1.1 D1 discloses a vaccine comprising enzyme-detergent extracted *S. zooepidemicus* (c. 1, l. 50-51; c. 5, l. 15-24; Example 1; claim 1).
D2 teaches a vaccine comprising life attenuated *S. zooepidemicus* (c. 4, l. 14-16; Example 2; claims 1, 3-5).
D3 discloses a vaccine comprising an antigenic extract of *S. zooepidemicus* (p. 75, c. 1, para. 2 - p. 76, c. 1, para. 4).
D4 teaches a vaccine comprising either *Chlamydia psittaci* or *M. cynos* (p. 2, l. 1 - p. 3, l. 19; Example 10; claims 1 and 2).
D5 teaches a vaccine against *Chlamydia abortus* comprising its *dnaK* gene (abstract; p. 316, c. 1, para. 2 - c. 2, para. 3).
D6 (whole document) and D7 (whole document) teach a vaccine comprising life attenuated *Chlamydia felis* (Nobivac Forcat).
D8 discloses vaccines against *C. trachomatis*, *C. psittaci* and *C. pneumoniae* comprising the respective PorB polypeptides (claims 1-18).
D9 teaches a vaccine against Chlamydiosis in dogs comprising inactivated *Chlamydia* (whole document).
As there are no specific features suggested that are required to achieve an immunogenicity in dogs, the vaccines disclosed in D1-D9 are considered to destroy the novelty of claim 1 (Art. 33(2) PCT).
- 1.2 In D1-D9 (supra) the vaccines are used in medicine. Hence, claim 23 lacks novelty over any of D1-D9 (Art. 33(2) PCT).
- 1.3 D6 also discloses a kit comprising the Nobivac Forcat vaccine (c. 4, para. 3). The subject-matter of claim 27, thus, lacks novelty over D6 (Art. 33(2) PCT).
D8 teaches a kit comprising the PorB polypeptide (c. 14, para. 3), thereby destroying

the novelty of claim 27 (Art. 33(2) PCT).

D11 teaches a kit comprising an antigen of *S. zooepidemicus*. As any antigen of *S. zooepidemicus* is considered to be capable of raising an immune response in dogs (p. 15, l. 13 - p. 16, l. 5), the subject-matter of claim 27 lacks novelty over D11 (Art. 33(2) PCT).

Moreover, as the only feature of the kit according to claim 27 is the agent capable of raising an immune response against any one of the microorganisms listed, and as each of D1-D5, D7 and D9 discloses such an agent (cf. V 1.1), the subject-matter of claim 27 also lacks novelty over any of said documents. (Art. 33(2) PCT).

1.4 D4 discloses a method of generating a monoclonal antibody directed at *S. zooepidemicus* as well as such an antibody (p. 15, l. 13 - p. 16, l. 5; Example 1; claim 9).

D8 teaches anti-PorB antibodies as well as a method of generating the said (c. 10, para. 3-5; c. 19, para. 4).

D10 teaches monoclonal antibodies to *C. trachomatis* and *C. psittaci* as well as a method of generating the said antibody by hybridoma technology (examples 1-3; claims 1-8).

D11 teaches a monoclonal antibody specific for *S. zooepidemicus* as well as a method of generating the said antibody by hybridoma technology (Example 1; claim 9).

Hence, the subject-matter of claims 29 and 31 is anticipated by D4, D8, D10 and D11 (Art. 33(2) PCT).

1.5 D3 discloses an ELISA for the detection of antibodies generated against *S. zooepidemicus* upon vaccination of mares with a bacterial preparation of *S. zooepidemicus*. In said ELISA the said preparation is coated onto microtiter plates and bound antibodies are detected by a sandwich assay involving a detectable label conjugate which binds to antibodies bound to the microtiter plate (p. 76; c. 2, last para.).

D5 teaches an ELISA for the detection of DnaK-directed antibodies, wherein DnaK is immobilised to a support and peroxidase-conjugated anti-mouse antibodies are used to detect the binding of antibodies contained in the sample to the immobilised DnaK (p. 317, c. 1, para. 2).

D8 teaches a sandwich immunosorbent assay for the detection of PorB-directed antibodies wherein PorB is immobilised to a solid support and labelled secondary antibodies are used to detect antibodies bound to the immobilised PorB (c. 11, para. 3 - c. 14, para. 1).

The disclosures of D3, D5 and D8 are thus prejudicial to the novelty of claims 52 and 54 (Art. 33(2) PCT).

- 1.6 D1-D3 (supra) disclose the additional feature suggested by claim 2 and 24. Moreover, the additional features according to claim 8 are also disclosed in D1 (supra) and D3 (supra). D4 (supra) teaches the additional features suggested by claims 3, 5, 8 and 24. D5 (supra) discloses the additional features suggested by claims 4 and 24. The additional features according to claims 5, 6 and 24 are disclosed in D6 (supra) and D7 (supra). D8 (supra) teaches the additional features suggested by claims 5 and 7. D9 (supra) discloses the additional features proposed by claims 24 and 25. Thus, claims 2-8, 24 and 25 do not establish novelty over the prior art (Art. 33(2) PCT).

- 1.7 The subject-matter of claims 9-22, 26, 28, 30, 32-51 and 53 is novel as the prior art does not disclose the combination of features suggested by any of these claims 8 (Art. 33(2) PCT).

- 2.1 The description only teaches an association of *S. zooepidemicus*, *M. cynos* and positive *Chlamydia* PCR with CIRDC. No support is provided for any prophylactic/therapeutic effect of a vaccine comprising an agent capable of raising an immune response against any of these organisms in dogs which would be the basis for acknowledging the problem of vaccinating a dog against CIRDC or of treating CIRDC in a dog using said vaccine as being solved. Hence, the subject-matter of claims 16 and 17 is not considered to involve an inventive step (Art. 33(3) PCT).

- 2.2 For similar considerations (cf. V 2.1) also the subject-matter of claims 20, 21, 32, 33, 35, 36 and 40 is not considered to involve an inventive step (Art. 33(3) PCT).

- 2.3 The combination of antibodies suggested by claim 38 is a mere juxtaposition of known antibodies (cf. V 1.4) which do not have any non-obvious inter-relationship and whose inclusion into a single composition, thus, does not establish an inventive step (Art. 33(3) PCT).
- 2.4 For these considerations (cf. V 2.3) also dependent claim 39 is not considered inventive (Art. 33(3) PCT).
- 2.5 D12 teaches an association of CIRDC with *M. cynos* (p. 428, c. 1, para. 1; p. 429, c. 1, para. 1). Based on this teaching and in applying routine experimentation the skilled person would devise a method of determining whether a dog has CIRDC by identifying the said microorganism in a sample from the dog. Thus, claim 45 is not considered to involve an inventive step (Art. 33(3) PCT).
- 2.6 The subject-matter of claim 18 differs from e.g. D3 in that an immune response is stimulated in dogs and not in mares. There is no support for said stimulation to have a technical effect, namely of preventing, curing or alleviating CIRDC in dogs (cf. V 2.1). Therefore, the selection of dogs for immunisation is considered arbitrary and does not establish an inventive step (Art. 33(3) PCT).
- 2.7 As there is also no support for an agent according to claim 9 to induce an immune response protective against or curative for CIRDC, the same considerations as under V 2.1 lead to the conclusion that this claim does not involve an inventive step (Art. 33(3) PCT).
- 2.8 For the considerations formulated under V 2.1, 2.2 and 2.7, also the subject-matter of claims 10-15, 22, 26, 34, 41 and 42 is not considered inventive (Art. 33(3) PCT).
- 2.9 The method of claim 30 is a routine modification of the methods of generating an antigen-specific mAb as suggested by any of D4, D10 and D11 (cf. V 1.4) which does not result in any unforeseeable technical effect, and which, thus, does not establish an inventive step (Art. 33(3) PCT).
- 2.10 In view of the arguments given under V 2.1, 2.6 and 2.7 the kit according claim 28

relates to an arbitrary juxtaposition of components which do not show any non-obvious inter-relationship. Hence, said claim does not involve an inventive step (Art. 33(3) PCT).

- 2.11 The additional features suggested by claims 46, 47, 49 and 51 are a matter of routine experimentation and do not produce any unforeseeable technical effect and, therefore, do not establish an inventive step (Art. 33(3) PCT).
- 2.12 The additional features suggested by claims 48 and 50 have no limiting effect with respect to the alternative in the antecedent relating to *M. cynos* and thus do not establish an inventive step over D12 (cf. V 2.5 and 2.11)(Art. 33(3) PCT).
- 2.13 The subject-matter of claim 43 solves the problem of determining whether a dog has been exposed to CIRD-associated *Chlamydoghila*. The solution involves identifying in a sample from the dog a CIRD-associated *Chlamydoghila* species or an antibody thereto. This method is based on the observed association of CIRD with certain *Chlamydoghila* species which is not suggested by the prior art. Hence, the subject-matter of claim 43 involves an inventive step (Art. 33(3) PCT).
- 2.14 Claim 53 suggest an immunosorbent assay comprising a solid phase comprising antigens of at least two of *S. zooepidemicus*, *M. cynos* and *Chlamydoghila* associated with CIRD. This solid phase solves the technical problem of increasing the sensitivity of detecting antibodies associated with CIRD. D12 teaches only the association of *M. cynos* with CIRD. The skilled person would not have an incentive to immobilise any of the other two antigens. Claim 53 is, therefore, considered to involve an inventive step (Art. 33(3) PCT).
- 2.15 The considerations of V 2.13 also apply to dependent claim 44 (Art. 33(3) PCT).
- 3.1 For the assessment of the present claims 16-19, 29, 32-34, 43-48 and 51 on the question whether they are industrially applicable, no unified criteria exist in the PCT Contracting States. The patentability can also be dependent upon the formulation of the claims. The EPO, for example, does not recognize as industrially applicable the subject-matter of claims to the use of a compound in medical treatment, but may

allow, however, claims to a known compound for first use in medical treatment and the use of such a compound for the manufacture of a medicament for a new medical treatment.

- 3.2 The subject-matter of claims 1-15, 20-28, 30, 31, 35-42, 49, 50 and 52-54 is considered to be industrially applicable (Art. 33(4) EPC).
- 4.1 Claims 1-7, 9-15, 18-23, 26-28, 40-42 and 52 do not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined. The claims attempt to define the subject-matter in terms of the result to be achieved ("agent capable of raising an immune response against ..."), which merely amounts to a statement of the underlying problem, without providing the technical features necessary for achieving this result. It cannot be determined which compounds fall under the said functional definition.
- 4.2 Also in claim 43 the subject-matter is considered to be defined in terms of a result to be achieved ("a Chlamydomonas species associated with CIRD"), thereby creating unclarity (Art. 6 PCT).
- 4.3 Whereas, the introductory part of claim 52 appears to relate to a method, the technical features proposed refer to a device. This inconsistency renders the category of said claim unclear (Art. 6 PCT)

Re item VI:

Should the priority of the present application not be valid, the D13 and D14 would be relevant with respect to novelty and inventive step (Art. 33(2) and (3) PCT).

PATENT COOPERATION TREATY

VPO 2003/002810
PCT/GB2004/00286

From the INTERNATIONAL BUREAU

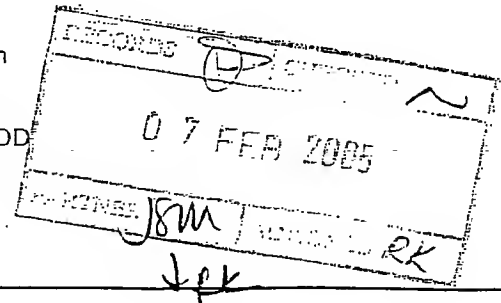
PCT

FIRST NOTICE INFORMING THE APPLICANT OF
THE COMMUNICATION OF THE INTERNATIONAL
APPLICATION (TO DESIGNATED OFFICES WHICH
DO NOT APPLY THE 30 MONTH TIME LIMIT
UNDER ARTICLE 22(1))

(PCT Rule 47.1(c))

To:

MILES, John
Eric Potter Clarkson
Park View House
58 The Ropewalk
Nottingham NG1 5DD
ROYAUME-UNI



Date of mailing (day/month/year)
03 February 2005 (03.02.2005)

Applicant's or agent's file reference
RVCV/P30948PC

IMPORTANT NOTICE

International application No.
PCT/GB2004/002865

International filing date (day/month/year)
01 July 2004 (01.07.2004)

Priority date (day/month/year)
01 July 2003 (01.07.2003)

Applicant
THE ROYAL VETERINARY COLLEGE et al

1. **ATTENTION:** For any designated Office(s), for which the time limit under Article 22(1), as in force from 1 April 2002 (30 months from the priority date), does apply, please see Form PCT/IB/308(Second and Supplementary Notice) (to be issued promptly after the expiration of 28 months from the priority date).
2. Notice is hereby given that the following designated Office(s), for which the time limit under Article 22(1), as in force from 1 April 2002, does not apply, has/have requested that the communication of the international application, as provided for in Article 20, be effected under Rule 93bis.1. The International Bureau has effected that communication on the date indicated below:
13 January 2005 (13.01.2005)

CH

In accordance with Rule 47.1(c-bis)(i), those Offices will accept the present notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

3. The following designated Offices, for which the time limit under Article 22(1), as in force from 1 April 2002, does not apply, have not requested, as at the time of mailing of the present notice, that the communication of the international application be effected under Rule 93bis.1:

LU, SE, TZ, UG, ZM

In accordance with Rule 47.1(c-bis)(ii), those Offices accept the present notice as conclusive evidence that the Contracting State for which that Office acts as a designated Office does not require the furnishing, under Article 22, by the applicant of a copy of the international application.

4. **TIME LIMITS for entry into the national phase**

For the designated Office(s) listed above, and unless a demand for international preliminary examination has been filed before the expiration of 19 months from the priority date (see Article 39(1)), the applicable time limit for entering the national phase will, subject to what is said in the following paragraph, be 20 MONTHS from the priority date.

In practice, time limits other than the 20-month time limit will continue to apply, for various periods of time, in respect of certain of the designated Offices listed above. For regular updates on the applicable time limits (20 or 21 months, or other time limit), Office by Office, refer to the *PCT Gazette*, the *PCT Newsletter* and the *PCT Applicant's Guide*, Volume II, National Chapters, all available from WIPO's Internet site, at <http://www.wipo.int/pct/en/index.html>.

It is the applicant's sole responsibility to monitor all these time limits.

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Nora Lindner

Facsimile No.+41 22 740 14 35

Facsimile No.+41 22 538 89 65

PATENT COOPERATION TREATY

WO 2005/002618
PCT/GB2004/00286

From the INTERNATIONAL BUREAU

PCT

SECOND AND SUPPLEMENTARY NOTICE
INFORMING THE APPLICANT OF THE
COMMUNICATION OF THE INTERNATIONAL
APPLICATION (TO DESIGNATED OFFICES
WHICH APPLY THE 30 MONTH TIME
LIMIT UNDER ARTICLE 22(1))

(PCT Rule 47.1(c))

To:

MILES, John
Eric Potter Clarkson
Park View House
58 The Ropewalk
Nottingham NG1 5DD
ROYAUME-UNI

JSM

Lpk file

Date of mailing (day/month/year)

03 November 2005 (03.11.2005)

Applicant's or agent's file reference

RVCV/P30948PC

IMPORTANT NOTICE

International application No.

PCT/GB2004/002865

International filing date (day/month/year)

01 July 2004 (01.07.2004)

Priority date (day/month/year)

01 July 2003 (01.07.2003)

Applicant

THE ROYAL VETERINARY COLLEGE et al

1. **ATTENTION:** For any designated Office(s), for which the time limit under Article 22(1), as in force from 1 April 2002 (30 months from the priority date), does not apply, please see Form PCT/IB/308(First Notice) issued previously.
2. Notice is hereby given that the following designated Office(s), for which the time limit under Article 22(1), as in force from 1 April 2002, does apply, has/have requested that the communication of the international application, as provided for in Article 20, be effected under Rule 93bis.1. The International Bureau has effected that communication on the date indicated below:
13 January 2005 (13.01.2005)

AU, AZ, BY, CN, CO, DZ, EP, HU, KG, KP, KR, MD, MK, MZ, NA, RU, SY, TM, US

In accordance with Rule 47.1(c-bis)(i), those Offices will accept the present notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

3. The following designated Offices, for which the time limit under Article 22(1), as in force from 1 April 2002, does apply, have not requested, as at the time of mailing of the present notice, that the communication of the international application be effected under Rule 93bis.1:

AE, AG, AL, AM, AP, AT, BA, BB, BG, BR, BW, BZ, CA, CR, CU, CZ, DE, DK, DM, EA, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, ID, IL, IN, IS, JP, KE, KZ, LC, LK, LR, LS, LT, LV, MA, MG, MN, MW, MX, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, SC, SD, SG, SK, SL, TJ, TN, TR, TT, UA, UZ, VC, VN, YU, ZA, ZW

In accordance with Rule 47.1(c-bis)(ii), those Offices accept the present notice as conclusive evidence that the Contracting State for which that Office acts as a designated Office does not require the furnishing, under Article 22, by the applicant of a copy of the international application.

4. TIME LIMITS for entry into the national phase

For the designated or elected Office(s) listed above, the applicable time limit for entering the national phase will, subject to what is said in the following paragraph, be 30 MONTHS from the priority date.

In practice, time limits other than the 30-month time limit will continue to apply, for various periods of time, in respect of certain of the designated or elected Office(s) listed above. For regular updates on the applicable time limits (30 or 31 months, or other time limit), Office by Office, refer to the *PCT Gazette*, the *PCT Newsletter* and the *PCT Applicant's Guide*, Volume II, National Chapters, all available from WIPO's Internet site, at <http://www.wipo.int/pct/en/index.html>.

It is the applicant's sole responsibility to monitor all these time limits.

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Nora Lindner

Facsimile No.+41 22 740 14 35

Facsimile No.+41 22 338 89 65